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TUESDAY  
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# Science & Health

## Epidemiology

### Hepatitis B afflicts more who descend from Asia

HIGH RATES MOTIVATE CAMPAIGN TO EDUCATE PUBLIC, SLOW DISEASE

By Anu Manchikanti  
*Mercury News*

Every two hours, someone in the United States dies from liver diseases caused by hepatitis B. And there's a 50-50 chance that person is an Asian-American or a Pacific Islander.

The chronic form of the virus, which causes an inflamed liver and can lead to cirrhosis or cancer, affects an estimated 7 percent of Asian-Americans or Pacific Islanders in the United States, according to the Centers for Disease Control and Prevention in Atlanta.

That rate is about 70 times greater than the percentages for whites and Hispanics, and 14 times greater than that for African-Americans, according to the Asian Liver Center at Stanford University. More than half of the 1.3 million hepatitis B cases in the United States are in Asians, though they constitute about 4 percent of the population.

Part of the problem, public health officials said, is a lack of knowledge among Asian-Americans and Pacific Islanders about hepatitis B. To try and remedy that, the Asian Liver Center has launched a jade ribbon campaign to increase awareness of screening and vaccinations that could dramatically slow the spread of the disease.

"If you actually prevent the next generation of children from getting the infection, you can ultimately reduce 80 percent of liver cancer in Asians," said Dr. Samuel So, a liver cancer sur-

See **HEPATITIS B**, Page 3F

## Profile of the disease

350 million people worldwide are infected with hepatitis B, a chronic blood-borne disease that kills more people than AIDS.

### INFECTION

- Virus travels through body in blood
- Spreads via sexual activity and contact with infected blood

### SYMPTOMS

Short term:

- Jaundice
- Pale stool
- Dark urine
- Fever
- Loss of energy, appetite

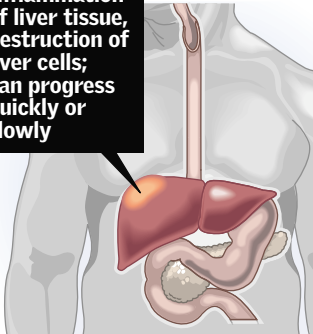
Long term:

- Cirrhosis of the liver
- Liver cancer

### THE LIVER'S FUNCTION

- Regulates blood's glucose, fat content
- Breaks down toxins in blood such as alcohol and medicines

**THE DISEASE:** Inflammation of liver tissue, destruction of liver cells; can progress quickly or slowly

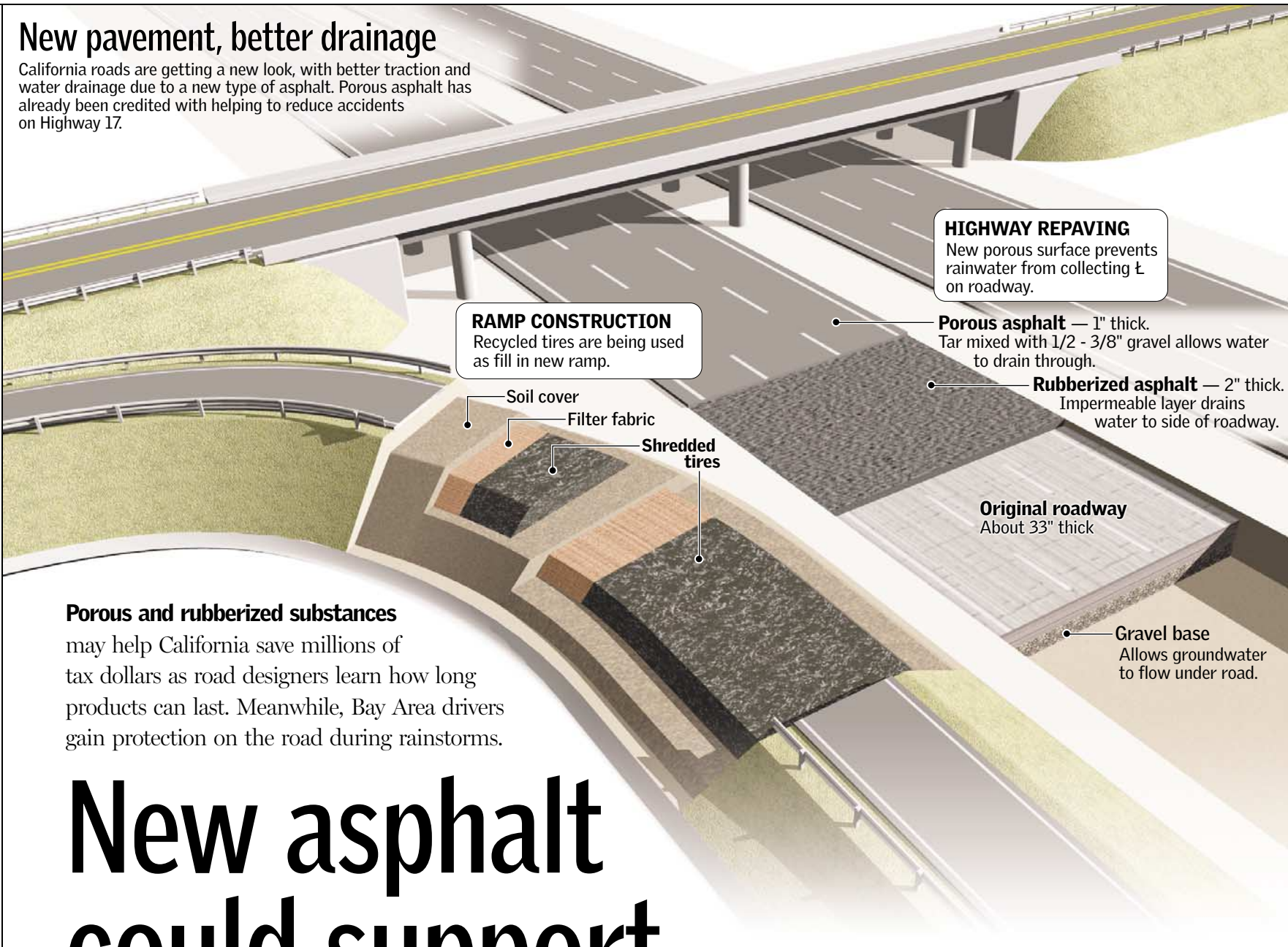


Source: The American Medical Association's Family Medical Guide, The Complete Family Health Encyclopedia

KNIGHT RIDDER

## New pavement, better drainage

California roads are getting a new look, with better traction and water drainage due to a new type of asphalt. Porous asphalt has already been credited with helping to reduce accidents on Highway 17.



### HIGHWAY REPAVING

New porous surface prevents rainwater from collecting on roadway.

**Porous asphalt** — 1" thick. Tar mixed with 1/2 - 3/8" gravel allows water to drain through.

**Rubberized asphalt** — 2" thick. Impermeable layer drains water to side of roadway.

**Original roadway**  
About 33" thick

**Gravel base**  
Allows groundwater to flow under road.

GRAPHICS BY PHIL LOUBERE — MERCURY NEWS

### Porous and rubberized substances

may help California save millions of tax dollars as road designers learn how long products can last. Meanwhile, Bay Area drivers gain protection on the road during rainstorms.

# New asphalt could support a better commute

Materials improve safety, expected to last longer

By Gary Richards  
*Mercury News*

There's something new under your tires on many Bay Area roads, and it promises to make the commute much smoother.

Rubberized and porous asphalt are gaining favor with road designers, and the materials are being used to varying degrees on Highway 17 over the Santa Cruz Mountains, on the major repaving effort now under way on Interstate 880 from Oakland to Fremont, and on expressways in Santa Clara County. And some motorists are noticing.

"The road is so much different and better," said Jeanne Catherine O'Kelly, a Highway 17 commuter, about the new open-graded asphalt designed to drain away water and provide better traction on mountain curves.

"It's amazing," she added. The technological advancements come at a time when road expansion throughout California is almost at an end due to a lack of land, environmental concerns and a push toward more public transit. Faced with having to move thousands of additional vehicles on existing lanes over the next several decades, traffic planners have been looking for ways to keep those routes safer and lasting longer before potholes and cracks zigzag through the pavement.

They are turning to smaller bits of gravel and the 33 million recycled tires clogging state landfills.

"There's a lot of new stuff going on in respect to recycled materials and asphalt," said Michael Murdter, head of Santa Clara County's roads department. "There are fliers going

out all the time on the new technology. It's exciting, especially the idea that this can stretch our maintenance dollars."

Highway 17 offers an early glimpse of the promise. A year ago, Caltrans repaved the mountain road from Scotts Valley to Los Gatos, installing a top layer consisting of open-graded asphalt. It uses gravel similar in size, about three-eighths of an inch thick, instead of the variety of sizes used in other paving procedures. The uniform rocks do not bind as tightly as gravel of different sizes that are combined with tar, which allows water to seep through the first couple inches of pavement and spread out to the side of the highway.

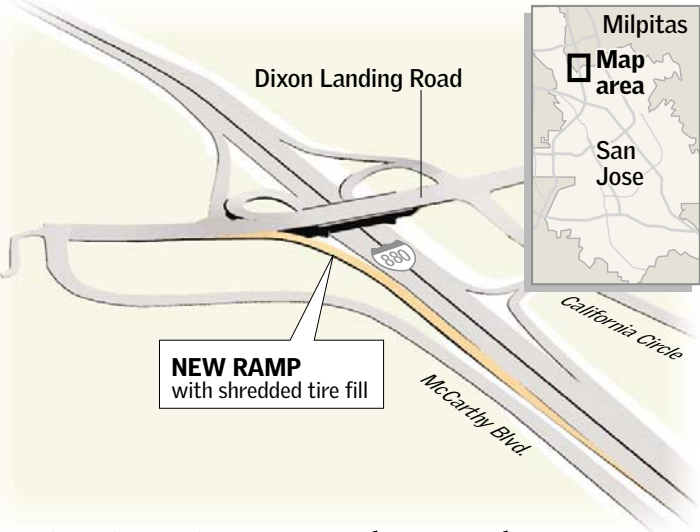
"Think of it as popcorn," said Saeed Shahmizai, the lead en-

gineer on the I-880 repaving effort, where the open-graded asphalt will also be used. "There are openings, and water drains right through."

All that adds up to less water on the road, better traction and fewer cars skidding out of control.

In the first three months of this year on Highway 17, the number of injury accidents decreased by 64 percent and the number of crashes fell 41 percent, compared to the same period two years ago. While beefed-up enforcement by the California Highway Patrol is credited with slowing drivers, many say the new pavement has been a significant factor in lowering the number of crashes.

See **ROADS**, Back Page



## Construction at Dixon Landing Road

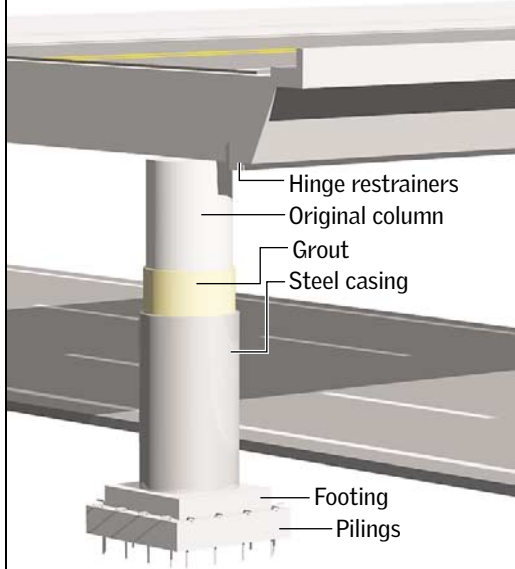
**WHAT'S AHEAD:** Dixon Landing bridge must be rebuilt to prepare for future widening of Interstate 880 to 10 lanes.

One southbound ramp is being built using recycled shredded tires as part of its fill.

**COST:** \$30 million

**COMPLETION:** 2004

## Seismic work



## Costly program to help overpasses, bridges in quakes

By Gary Richards  
*Mercury News*

Rubberized asphalt isn't the only advancement on Bay Area roads — or even the most expensive.

The biggest price tag is attached to work on state bridges and overpasses, where more than \$4.5 billion is being spent for seismic upgrades in a program initiated by former Gov. Pete Wilson after the 1994 Northridge quake. More than 12,000 bridges have had their supports beefed up, and attention now is turning to those spanning the San Francisco Bay.

Seismic work has been completed on the Hayward-San Mateo Bridge and the west end of the Bay Bridge. Caltrans hopes to begin replacing the eastern span by the end of this year. Construction is under way on the Richmond-San Rafael, Carquinez and Benicia bridges. And on freeways, all single-column spans in the Bay Area — the ones most vulnerable to a big quake — have been replaced or reinforced with steel casings.

The new overpasses may shake and suffer damage, said Caltrans' Judy Chen, the chief of traffic systems who oversees the seismic program in the Bay Area. But "we expect they'll still be standing after the next quake."

## Inside

### CANCER SOCIETY SETS NEW GUIDELINES FOR NUTRITION.

Whole foods improve diet more than adding supplements.

**PAGE 4F**

Jane Brody . . . . . Page 2F  
Vital Signs . . . . . Page 2F  
Calendar . . . . . Page 3F  
Resource . . . . . Page 3F  
Seismo-Watch . . . . . Page 4F

How I Stay Fit will return next week.



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weather corner

Each year, heat kills more people than floods, lightning, tornadoes, cold or hurricanes.

## Recent deaths show how high temperatures pose danger

In recent weeks, there have been several tragic stories about heat-related deaths of children in cars, the elderly and even well-conditioned athletes. These events demonstrate that heat is the most deadly weather phenomenon in the United States, causing an average of 144 deaths per year. According to statistics from the National Weather Service, each year heat kills more people than floods, lightning, tornadoes, cold weather

or hurricanes.

These numbers only account for fatalities directly related to heat. There are undoubtedly many more deaths indirectly related to hot weather, especially among the elderly during heat waves.

For example, in 1980 a severe heat wave in the Midwest killed more than 1,250 people. Officials from the federal Centers for Disease Control and Prevention estimated another 10,000 deaths were related to

heat stress. Here in the Bay Area, there were nine heat-related deaths in June 2000 when temperature readings ranged from 100 degrees to 110 degrees.

Additionally, there is a great deal of truth in the expression: "It's not the heat, it's the humidity." Not only is high humidity uncomfortable, it is also unhealthy. Heat-related illness occurs when a person's body can't properly cool itself by perspiring. Under extremely

hot or humid conditions, sweating can't compensate enough to stave off a rapid rise in body temperature. The body's inability to cool itself is exacerbated when the humidity is high.

Ultimately, very high body temperatures may damage the brain or other vital organs. The recent death of Minnesota Vikings player Corey Stringer was a prime example

See **NULL**, Page 5F